Child Death Review and Emergency Medical Services : Collaborating to Improve Children's Health

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Objective

- This poster will review the community level interactions and collaborations between Child Death Review teams and Emergency Medical Services. These collaborations are directly related to performance and outcome measures to reduce child deaths.

Child Death Review

- Child Death Review (CDR) is a community or state level process in which multidisciplinary teams meet to review deaths of infants, children and adolescents.
- The ultimate goal of CDR is to prevent deaths of children through the use of information gained from systematic reviews at the State or local level that identify factors at the individual, environmental, clinical or systems levels that can be mitigated.
- Every State, DC and some territories have some form of CDR.

National Center for the Review & Prevention of Child Deaths

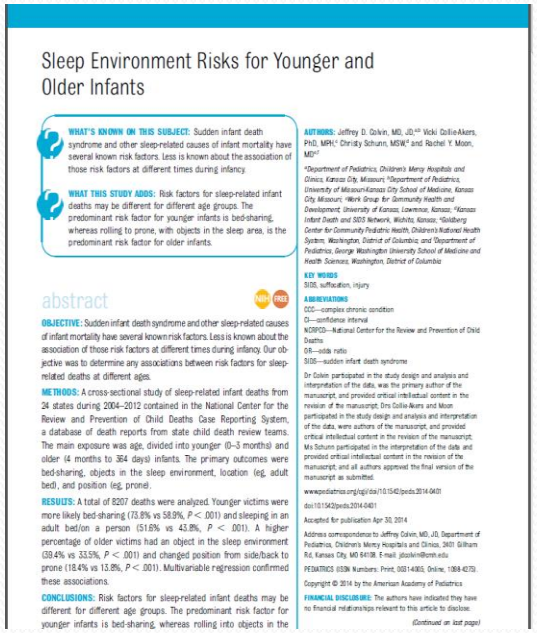
- HRSA* supports CDR through a cooperative agreement with the National Center for the Review & Prevention of Child Deaths, funded through Title V Special Projects of Regional and National Significance (SPRANS). The Center provides technical support to about 1,200 State and local CDR teams in all 50 states, DC and some territories and maintains a standardized data form and a web-based reporting system for state and local teams.
- Center URL: http://www.childdeathreview.org/

*HRSA/ Maternal and Child Health Bureau/ Emergency Medical Services for Children and Injury Prevention Branch

CDR Case Reporting System

- Currently teams from 43 states enter data about the circumstances of each death they review into a web-based case reporting system (CRS). Using the CRS, teams can download and analyze their own data as well as produce standardized data summaries.
- Teams use the data to develop and implement evidence-based initiatives and policies to reduce child death.
- Data are also available to national researchers with approval from the Center Data Committee.

Examples of CDR Publications



Sleep Environment Risks for Younger and Older Infants

WHAT'S KNOWN ON THIS SUBJECT: Sudden infant death syndrome and other sleep-related causes of infant mortality have several known risk factors. Less is known about the association of those risk factors at different times during infancy.

WHAT THIS STUDY ADDS: Risk factors for sleep-related infant deaths may be different for different age groups. The predominant risk factor for younger infants is bed-sharing, whereas rolling to prone, with objects in the sleep area, is the predominant risk factor for older infants.

abstract

OBJECTIVE: Sudden infant death syndrome and other sleep-related causes of infant mortality have several known risk factors. Less is known about the association of those risk factors at different times during infancy. Our objective was to determine any associations between risk factors for sleep-related deaths at different ages.

METHODS: A cross-sectional study of sleep-related infant deaths from 24 states during 2004–2012 contained in the National Center for the Review and Prevention of Child Deaths Case Reporting System, a database of death reports from state child death review teams. The main exposure was age, divided into younger (0–5 months) and older (4 months to 364 days) infants. The primary outcomes were bed-sharing, objects in the sleep environment, location (eg, adult bed), and position (eg, prone).

RESULTS: A total of 8207 deaths were analyzed. Younger victims were more likely bed-sharing (73.8% vs 58.9%, $P < .001$) and sleeping in an adult bed/on a person (51.6% vs 43.8%, $P < .001$). A higher percentage of older victims had an object in the sleep environment (39.4% vs 33.5%, $P < .001$) and changed position from side/back to prone (18.4% vs 13.8%, $P < .001$). Multivariable regression confirmed these associations.

CONCLUSIONS: Risk factors for sleep-related infant deaths may be different for different age groups. The predominant risk factor for younger infants is bed-sharing, whereas rolling into objects in the

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KEY WORDS
SIDS, suffocation, injury

ABBREVIATIONS
CCC—complex chronic condition
CI—confidence interval
NCRPCD—National Center for the Review and Prevention of Child Deaths
OR—odds ratio
SUDI—sudden infant death syndrome

Dr Colvin participated in the study design and analysis and interpretation of the data, was the primary author of the manuscript, and provided critical intellectual content in the revision of the manuscript; Drs Collie-Akers and Moon participated in the study design and analysis and interpretation of the data, were authors of the manuscript, and provided critical intellectual content in the revision of the manuscript; Ms Schunn participated in the interpretation of the data and provided critical intellectual content in the revision of the manuscript; and all authors approved the final version of the manuscript as submitted.

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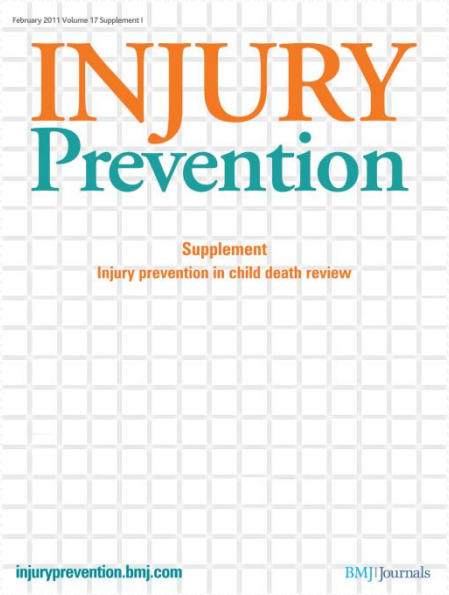

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Emergency Medical Services (EMS)

- EMS providers (e.g. Emergency medical technicians, paramedics) are often the first on the scene when a child dies or is seriously injured.
- EMS can play a key role in helping teams examine the circumstances surrounding the deaths of children by collecting and providing quality data about the scene and circumstances of the death (EMS run records).
- In addition, CDR teams can improve EMS services through identification of recommendations based on the case review.

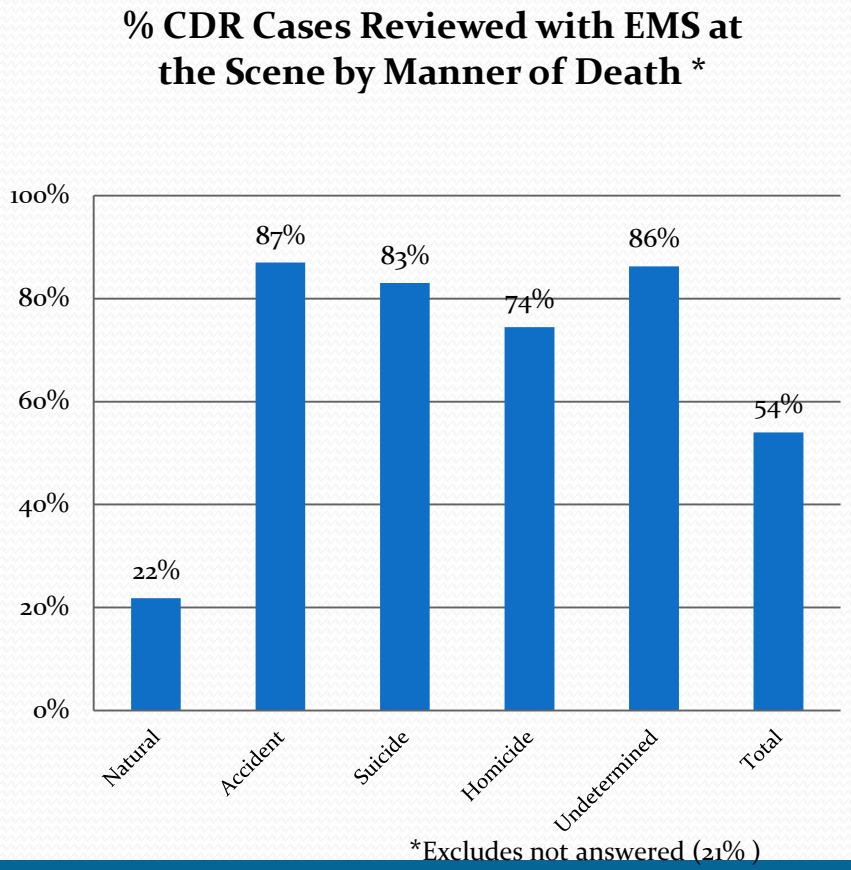
Roles of EMS in CDR

- *Provide the team with information on:*
  - EMS run reports.
  - Details on the scene, including the persons at the scene.
  - Medical information related to the emergency procedures performed.
- *Provide the team with expertise by:*
  - Giving detailed explanations of EMS procedures and protocols.
  - Sharing general knowledge based on EMS training and experience.
  - Helping the team understand and/or participate in critical stress debriefings.

Roles of EMS in CDR

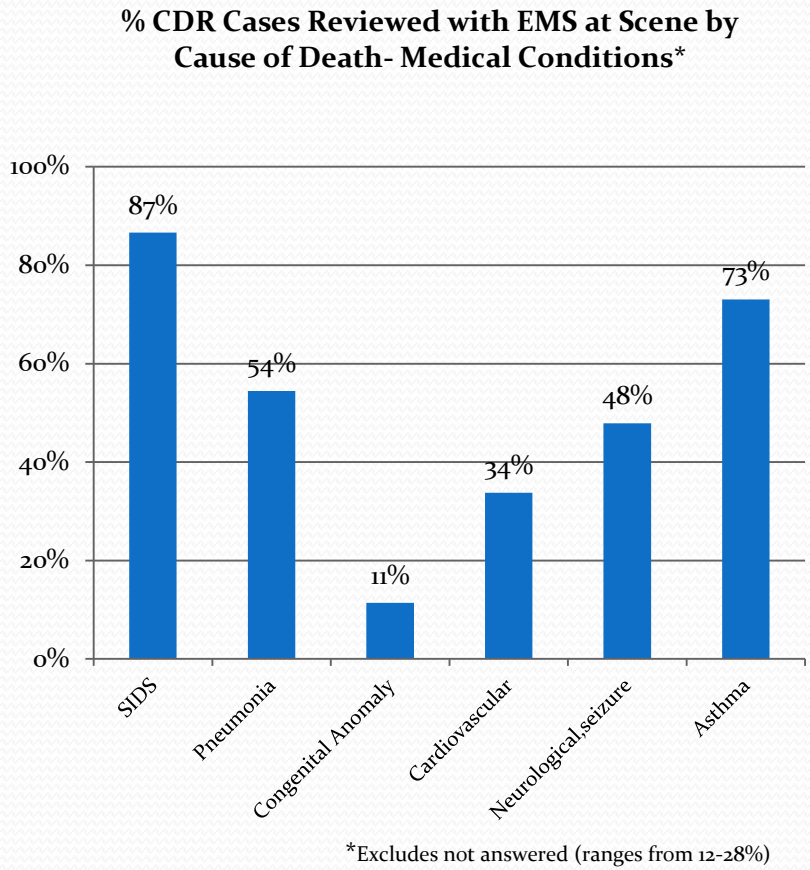
- *Support the team by:*
  - Understanding EMS procedures and protocols.
  - Addressing issues regarding scene preservation practices.
- *Help build bridges by:*
  - Learning about scene preservation practices essential to investigation and prosecution.
  - Acting as liaison between the team and the jurisdiction's EMS community.
  - Working with law enforcement and district attorneys to resolve issues related to scene investigation.

EMS at Scene- Data from CDR CRS



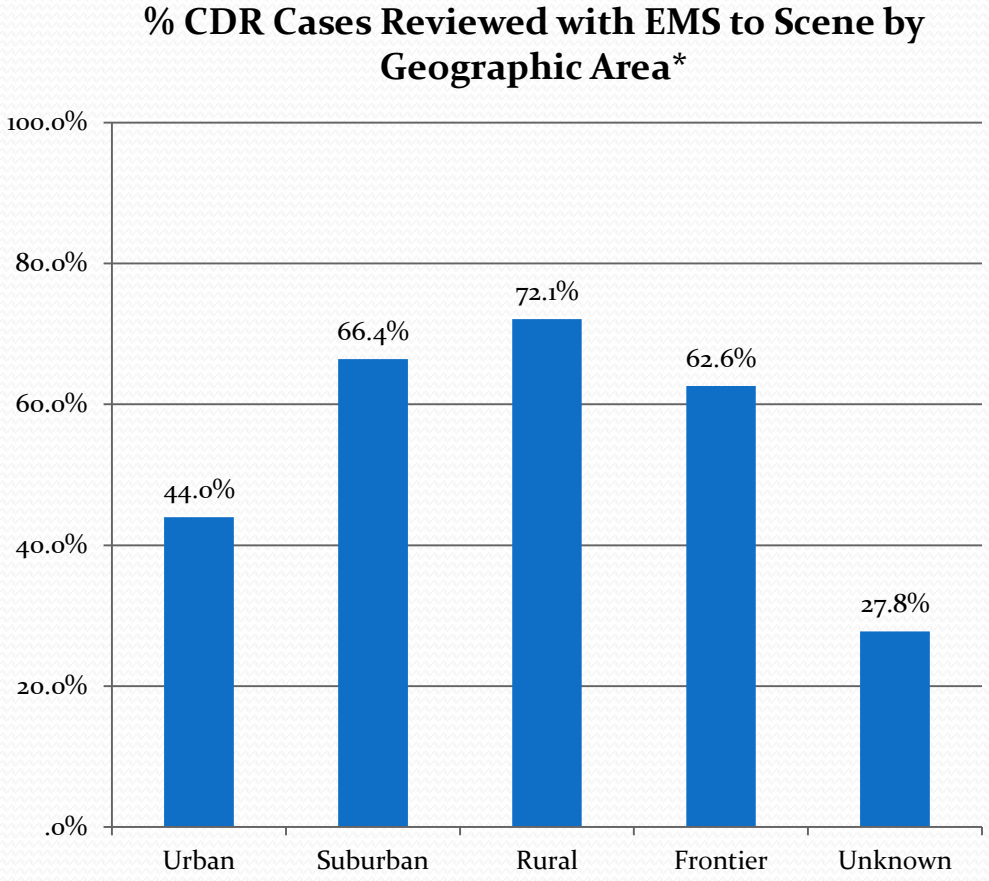
- EMS was at the scene for 54% of incidents involving a child death.
- EMS was more likely to be at the scene of an unintentional or intentional injury death than a natural death.

EMS at Scene, Medical Cause of Deaths



- This chart shows the top medical deaths in the CDR database.
- EMS more likely to have been at scene for deaths due to SIDS or asthma or undetermined medical deaths (n=78% not shown) than other medical conditions.

EMS at Scene by Geography



*Excludes not answered (ranges from 3-4%)

- EMS was more likely to be at the scene in rural areas than urban areas.

EMS at Death Review Team Meeting

- EMS attended the review meeting for 20% of the deaths reviewed.
- When EMS was at the scene, they were also at the case review meeting for 45% of the cases.
- EMS slightly less likely to attend the reviews in frontier areas (16.4%) versus urban (20.3%), rural (22.3%) and Suburban (25.7%).

Prevention Recommendations from Teams

- Based on the review, teams make system and policy recommendations to prevent future child deaths. Some examples that were EMS focused include:
  - Need to improve EMS documentation of the scene.
  - Promote trainings for EMS providers on death scene investigations.
  - Inconsistent transporting practices among county EMS in cases of unexpected infant deaths led to a recommendation that the Medical Service Officer from county EMS agencies review current policy and procedures with the regional pediatric hospital EMS coordinator when an infant death occurs.

EMS and CDR Collaboration

- Some CDR teams collaborate with EMS to improve the review process and implement recommendations.
- In Pennsylvania, EMS helped develop the local CDR teams throughout the state and are active members of most local teams. At the state level they have been a part of the collaborative investigation planning process which resulted in Pennsylvania doing a series of infant death scene investigations throughout the state.

EMS and CDR Collaboration, cont.

- Several state CDR coordinators are implementing Direct-On-Scene Education (DOSE), which trains First Responders to identify and remove infant-related sleep hazards while delivering education on scene in an attempt to eliminate suffocation or positional asphyxia deaths.

EMS and CDR Collaboration, cont.

- The HRSA/MCHB funded Emergency Medical Services for Children (EMSC) state manager in Guam was a key player in implementing legislation authorizing CDR by organizing the first CDR team meeting. American Samoa and Marshall Islands EMSC have both offered to take the lead in planning for a CDR in their jurisdictions.

Conclusions

- Child Death Review and Emergency Medical Services have a common goal to prevent child deaths.
- Findings and partnership between State and local CDR teams and their community Emergency Medical Services can improve data quality, result in concrete actionable recommendations to better drive prevention efforts, impacting the health and well-being of children.
- Title V programs can encourage state and local CDR teams to include the expertise of EMS providers in the review of deaths to children and the identification of system improvements.

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The Affordable Care Act

- Next annual open enrollment period:
  - **November 15, 2014 – February 15, 2015**
- Special enrollment periods available in certain circumstances during the year.
  - Visit http://www.healthcare.gov/how-can-i-get-coverage-outside-of-open-enrollment to learn more
- Can apply for Medicaid and CHIP at any time.